

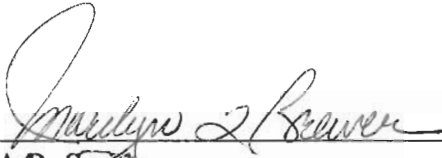
APPENDIX D

SITE SPECIFIC HEALTH AND SAFETY PLAN

SITE SAFETY AND HEALTH PLAN

HAMILTON AIRFIELD Novato, California

Approved by:

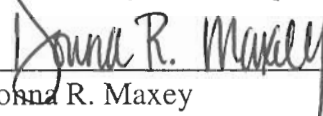

A.R. Smith

Date:

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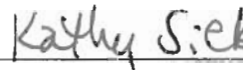
for Chief, Safety and Occupational Health Office

Prepared by:


Donna R. Maxey
Project Safety and Health Officer

Date:

1/7/04


Kathy Siebenmann
Project Team Lead

Date:

1/8/03 04 145



U.S. Army Corps of Engineers
Sacramento District

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TABLE OF CONTENTS

1.0	INTRODUCTION.....	5
1.1	Policy Statement	5
1.1.1	Safety / Health Responsibilities	5
1.2	Purpose.....	5
1.3	Supplemental SSHP	5
1.3.1	Contractor's SSHP	5
1.3.2	Multi-Employer Job Setting.....	5
1.4	Accident Prevention Plan.....	6
1.5	Compliance	6
1.6	Applicability	6
1.7	Notification Requirements	6
1.8	References.....	6
1.9	SSHP Organization	6
1.9.1	Section I.....	6
1.9.2	Section II.....	7
1.9.3	SPK-OM-385-1-1	7
1.10	Activity Hazard Analysis (AHA).....	7
1.10.1	SPK Tasks	7
1.10.2	Contractor Tasks	7
2.0	SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION	7
2.1	Contaminant Characterization	7
3.0	HAZARD/RISK ANALYSIS	8
3.1	General.....	8
3.1.1	Tasks	8
3.2	Chemical Hazards	8
3.2.1	Chemicals of Potential Concern (COPC)	8
3.2.2	Chemical Information and Material safety Data Sheets (MSDS).....	9
3.2.3	Action Levels.....	9
3.3	Physical Hazards.....	9
3.4	Biological Hazards.....	9
3.5	Radiological Hazards.....	9
3.6	Unexploded Ordnance	9
3.7	Safety Hazards	9
3.8	Hazard Analysis.....	9
3.8.1	Heavy Equipment Operations.....	10
3.8.2	Vehicle Traffic	10
3.8.3	Heavy Lifting.....	10
3.8.4	Slip/Trip/Fall.....	10
3.8.5	Noise	10
3.9	Hazard Communication Program	10
4.0	STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES	10
4.1	SPK Chain of Command.....	10
4.2	SPK Personnel Responsibility and Authority	10

4.2.1	Project Manager	11
4.2.2	Site Safety and Health Officer	11
4.2.3	Field Personnel.....	11
4.2.4	Project Safety and Health Officer	11
4.2.5	Chief, Safety and Occupational Health Office	11
4.2.6	Other Key Safety and Health Personnel	11
4.2.7	Key Personnel	11
4.2.8	Site Visitors.....	12
5.0	Training	12
5.1	General.....	12
5.1.1	Additional Training.....	12
5.1.2	Initial Training	12
5.1.3	Supervisory Training	12
5.1.4	Refresher Training	12
5.1.5	Site-Specific Training	13
5.1.6	Daily Tailgate Safety Meetings	13
5.1.7	Respiratory Protection	13
5.1.8	Hazard Communication	13
5.1.9	Bloodborne Pathogens and CPR/First Aid	13
5.1.10	Hearing Conservation	13
5.1.11	Confined Space Entry	13
5.1.12	Excavation and Trenching	13
5.1.13	Emergency Response Procedures	14
5.1.14	Site-Specific Rules and Disciplinary Procedures	14
5.1.15	Documentation of Training.....	14
5.1.16	First Aid / CPR	14
6.0	PERSONAL PROTECTIVE EQUIPMENT.....	14
6.1	Personal Protective Equipment Program	14
6.2	PPE Ensemble	14
6.2.1	Site-Specific Personal Protective Equipment	14
6.2.2	Level D.....	14
6.2.3	Level C.....	15
6.2.4	Level B and Level A.....	15
6.2.5	Modification of PPE	15
6.3	Fit-For-Duty	16
6.4	Respirator Protective Program.....	16
7.0	Medical Surveillance.....	16
7.1	General.....	16
7.2	Medical Surveillance Coordinator	16
7.3	Medical Examinations	16
7.3.1	Contents of Medical Examination	16
7.3.2	Injury or Illness.....	16
7.3.3	Certification of Participation.....	16
7.4	Medical Records	17
7.4.1	Project Specific Medical Monitoring.....	17
7.5	Emergency Medical Assistance and First Aid.....	17
8.0	RADIATION DOSIMETRY	17

9.0	EXPOSURE MONITORING/AIR SAMPLING PROGRAM.....	17
9.1	General.....	17
9.2	Dust Control.....	17
9.3	Heat or Cold Stress Monitoring.....	17
10.0	HEAT / COLD STRESS MONITORING	17
10.1	General.....	17
10.2	Heat Stress	17
10.2.1	Monitoring for Heat Stress.....	18
10.3	Cold Stress	18
11.0	STANDARD OPERATING SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES	18
11.1	Field Safety Requirements.....	18
11.2	Hearing Conservation	19
11.3	Heavy Equipment Operations	19
11.4	Weather	19
11.5	Slips, Trips, Falls	19
11.6	Cuts and Scrapes	19
11.7	Buried / Overhead Utilities	19
12.0	SITE CONTROL MEASURES	19
12.1	Work Zones.....	19
12.2	Authorized Personnel.....	19
12.3	Communication Systems	19
13.0	PERSONAL HYGIENE AND DECONTAMINATION.....	20
14.0	EQUIPMENT DECONTAMINATION.....	20
15.0	EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS.....	20
16.0	EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES.....	20
16.1	Local Fire / Police / Rescue	20
16.2	General.....	20
16.3	Spill and Discharge Control.....	20
16.4	Emergency Response Plan and Contingency Procedures.....	20
16.4.1	Medical Emergency Response.....	21
16.4.2	Emergency Response Contacts.....	21
16.4.3	Personal Exposure or Injury.....	21
16.4.4	Emergency Equipment.....	21
17.0	ACCIDENT PREVENTION.....	21
17.1	Daily Safety and Health Inspections.....	21
17.2	Accident or Incident.....	22
17.3	Accident Investigations.....	22
18.0	LOGS, REPORTS, AND RECORDKEEPING	22
18.1	Recordkeeping	22
18.2	Accident Reporting and Investigation	22

Figure 1-1	Site Location Map	25
Figure S-2	Emergency Route Map	26

PART I

1.0 INTRODUCTION

This Site Safety and Health Plan (SSHP) establishes the responsibilities, requirements, and procedures for the protection of U.S. Army Corps of Engineers (USACE) Sacramento District (SPK) field personnel during site activities involving preliminary non-intrusive activities (i.e., initial site visits, pre-work plan visits); contractor quality assurance audits; and sampling (soil). This SSHP is prepared for the sole use of SPK personnel.

1.1 Policy Statement

SPK's policy is to provide a safe and healthful work environment for field personnel. Field personnel will receive the appropriate training, equipment, medical, and other resources necessary to complete assigned tasks in a safe manner.

1.1.1 Safety / Health Responsibilities

SPK's Project Manager (PM), Project Safety and Health Officer (PSHO) and Site Safety and Health Officer (SSHO) will cooperatively implement the requirements of this SSHP / Accident Prevention Plan (APP).

1.2 Purpose

The purpose of this SSHP is to heighten awareness of the Hazards present, enhance the safety and health of SPK's site personnel performing field work at Hamilton Airfield Guidelines for emergency response. This SSHP is written to meet the safety and health requirements in EM 385-1-1 and ER 385-1-92 as well as OSHA AF requirements (29 CFR 1926.65 / 29 CFR 1910.120). The procedures and guidelines contained herein are based upon the best available information regarding the physical, chemical, biological, radiological, and safety hazards known, or suspected to be present at HAAF at the time of this SSHP's preparation. Specific requirements may be revised if new information is received or site conditions change. Any revisions to this plan will be made with the knowledge and concurrence of the PM, PSHO, and the Chief of the Safety and Occupational Health Office (SOH).

1.3 Supplemental SSHP

This SSHP supplements any contractor's SSHP when SPK personnel are auditing the contractor.

1.3.1 Contractor's SSHP

Contractors are responsible for their own SSHP and the safety and health of their employees. Contractor developed SSHP(s) are available to SPK personnel.

1.3.2 Multi-Employer Job Setting

Under OSHA AF, each employer is required to provide a safe and healthful working environment for its employees. SPK may be simultaneously working in conjunction with other contractors. In this situation, the activities of one employer could cause harm to the

employees of another employer. SPK and contractors will present the particular safety and health issues associated with each day's activities at the daily tailgate safety meeting.

1.4 Accident Prevention Plan

This SSHP also serves as the Accident Prevention Plan (APP) as required by EM 385-1-1 (Appendix A).

1.5 Compliance

SPK personnel will comply with this SSHP, any contractor prepared SSHP, applicable Federal, state, and local environmental laws, and occupational safety and health regulations.

1.6 Applicability

SPK site personnel are responsible for reading, understanding and abiding by this SSHP and documenting such understanding through signing the SSHP's Employee Acknowledgment Form.

1.7 Notification Requirements

The PM will be immediately notified of the following:

- a. Any required site evacuation, e.g., based on contractor air monitoring data.
- b. Any fatality or admission of one or more site personnel to the hospital. The PM will be responsible for notifying the employee's supervisor, the SOH and the client.
- c. Any site physical Hazard where continued site work could lead to possible death or permanent injury.

1.8 References

The SSHP and subsequent activities will comply with the following referenced documents, at a minimum:

- a. Title 29 Code of Federal Regulations (CFR) 29 CFR 1926.65 / 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*.
- b. USACE, *Safety and Health Requirements Manual*, EM 385-1-1.
- c. USACE, *Safety and Occupational Health Document Requirements for Hazardous, Toxic and Radioactive Waste (HTRW) Activities*, ER 385-1-92.
- d. NIOSH/OSHA/USCG/EPA, *Occupational Safety and Health Guidance Manual for Hazardous Waste Activities*.

1.9 SSHP Organization

This SSHP is comprised of two sections.

1.9.1 Section 1

This section addresses site specific safety and health issues. It includes a site description and contaminant characterization a safety and health risk/Hazard analysis for chemical, physical, biological, safety, and radiological Hazards; monitoring requirements and

action levels for upgrading or downgrading personal protective equipment (PPE) or evacuating the site; and emergency assistance information.

1.9.2 Section II

Section II (under development) includes general safety and health procedures common to SPK field efforts at any site. Section II describes the roles and responsibilities of field personnel with respect to safety and health, safety training requirements, medical surveillance program, descriptions of different levels of PPE, and standard safety procedures such as safety inspections, emergency response planning, Hazard communication, and spill containment. Information in this section will aid SPK employees when conducting contractor quality assurance audits.

1.9.3 SPK-OM-385-1-1

This SSHP will be utilized in conjunction with SPK's *Safety and Occupational Health Policy and Procedures Manual*, OM 385-1-1.

1.10 Activity Hazard Analysis (AHA)

Before activities begin, a safety and health tailgate meeting will be conducted by the SSHO and contractors to review the AHAs. This meeting will include a review of potential Hazards and control measures necessary to perform project activities safely as well as any contingency planning in the event of an emergency.

1.10.1 SPK Tasks

Work tasks include non-intrusive activities (i.e., initial site visits, pre-work plan visits); contractor quality assurance audits; and sampling (soil).

1.10.2 Contractor Tasks

The Contractor's work tasks are described in the contractor's SSHP(s).

2.0 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

The Hamilton Airfield is located in Novato, California. HAAF was a former Air Force Base and Army Field. Sampling will consist of numerous soil sampling in and around the base with varied laboratory analytical requirements. The investigations are designed to collect soil samples at three sites at HAAF is contaminated or the lateral and vertical extent of any contamination at five previously sampled sites. The eight sites are Spoils Pile F, South Runway DDT Hotspot, Revetments 6 and 7, Firing-In Target Butt Near Revetment 1, Skeet Range, Testing Range, Building 35, and Unlined Perimeter Ditch (UPDD).

2.1 Contaminant Characterization

A list of potential contaminants found or known to be present at HAAF is included as attachment Table 1 – Occupational Health Exposure and Toxicological Properties for Contaminants of Potential Concern. Compilation of this list is based on results of

previous studies or selecting the likely contaminants based on site history and prior site uses/activities.

3.0 HAZARD/RISK ANALYSIS

3.1 General

This SSHP identifies the chemical, physical, biological, radiological, safety, and OE/CWM Hazards may be encountered. The AHA identifies potential Hazards and control measures to be implemented to eliminate or reduce each Hazard to an acceptable level.

3.1.1 Tasks

- a. Non-intrusive visits.
- b. Soil sampling in soil stockpiles up to 2 feet deep.

3.2 Chemical Hazards

Known or suspected chemical Hazards exist at HAAF (see attached Table 1). These include potential exposure to a variety of metals such as lead, antimony, copper and zinc, explosive compounds, volatile and semi-volatile organic compounds, pesticides, PCBs, and dioxins. The chemicals are either known or suspected to exist at HAAF, with their respective exposure limits, are listed. The OSHA permissible exposure limit (PEL) and short-term exposure limit (STEL), the American Conference of Governmental Industrial Hygienist (ACGIH[®]) Threshold Limit values (TLV[®]), and the National Institute for Occupational Health and Safety (NIOSH) Immediately Dangerous to Life and Health (IDLH) concentrations are listed, if available, for each chemical. The actual exposure limit concentrations of these materials vary, depending upon the media in which the chemicals are present and site activities. Based on current information, it is suspected the surface and subsurface at HAAF may be contaminated with some or all of the compounds listed in the table. Actual contaminants encountered may not be limited to these. Personal exposures to these chemicals may be through inhalation, ingestion, skin and eye contact, skin absorption, or by a combination of these routes. Additionally, SPK will evaluate safety and health Hazards for Hazardous substances brought on site for the execution of site activities.

3.2.1 Chemicals of Potential Concern (COPC)

Table 1 – Occupational Health Exposure and Toxicological Properties of COC

COC	OSHA PEL	NIOSH REL	ACGIH TLV	IDLH
PAH	0.2 mg/m ³	0.1 mg/m ³ (10 hour exposure)	NA	80 mg/m ³

3.2.2 Chemical Information and Material safety Data Sheets (MSDS)

Prior to the commencement of work, all available information concerning the chemical, physical, and toxicologic properties of each substance known or expected to be present on site will be made available to the affected employees. MSDSs will be available for Hazardous materials brought to the site by SPK and any contractor. It is not anticipated SPK will bring any Hazardous chemicals to the site in support of site activities.

3.2.3 Action Levels

Action levels are not required for SPK activities. SPK will comply with the contractor's actions levels for sites being audited.

3.3 Physical Hazards

Potential Hazards from physical agents include noise, heat and cold stress, solar radiation, weather, lifting, slipping, tripping, or falling,

3.4 Biological Hazards

Biological Hazards include insects, spiders, ticks and fleas, rattlesnakes, scorpions, rodents, and plants with thorns, spines and needles.

- a. Snakes and insects are found throughout HAAF. Possible cover and Habitat for these shall be minimized in the field operations area.
- b. Hantavirus exposure is also a potential Hazard. Potential risk factors for Hantavirus exposure include disturbing mice nests or areas with visible mouse droppings.

3.5 Radiological Hazards

There is no evidence of ionizing radiation sources or radioactive waste disposal at HAAF; therefore, no specific radiation screening is planned. In the event information is provided contradicts with this assumption, this SSHP will be amended to include appropriate screening and action levels for Halting or altering site work. SPK will not use nuclear sourced equipment (i.e., soil compaction nuclear density gauge, XRF).

3.6 Unexploded Ordnance

There is no evidence of UXO at the study site. If a suspect UXO is encountered, SPK employees will evacuate the site.

3.7 Safety Hazards

Safety Hazards from SPK and contractor site conditions and activities include excavation, slips, trips, and falls on same surface, electrical, equipment and machinery, weather, etc. SPK will ensure the controls implemented to address these safety Hazards comply with applicable sections of EM 385-1-1.

3.8 Hazard Analysis

This certifies SPK assessed the type, risk level, and severity of Hazards for the tasks and selected appropriate personal protective equipment in accordance with 29 CFR 1910.132

3.8.1 Heavy Equipment Operations

Prudent care will be exercised when moving about machinery of any kind. Personnel will be aware the use of certain protective equipment may limit dexterity and visibility, and may increase the difficulty in performing certain tasks.

3.8.2 Vehicle Traffic

Employees may be exposed to vehicle accident Hazards associated with the operation of vehicles during the project. Seat belts will be worn and basic speed laws followed.

3.8.3 Heavy Lifting

During manual lifting tasks, personnel will lift with the force of the load suspended on their legs and not their backs. They are to maintain a straight back and hold the object close to the body. Mechanical lifting devices or help from a fellow field team member will be sought when the object is too heavy for one person to lift.

3.8.4 Slip/Trip/Fall

All field members are to be vigilant in providing clear footing, identify obstructions, holes or other tripping Hazards, and maintaining an awareness of uneven terrain and slippery surfaces. Working at heights above six feet is not anticipated.

3.8.5 Noise

All field personnel will be required to wear hearing protective devices in areas where normal communication cannot be understood when field personnel are within three feet from one another and when working within 20 feet of heavy equipment.

3.9 Hazard Communication Program

SPK includes a Hazard communication program in SPK-OM-385-1-1.

4.0 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

The operational and safety and health responsibilities will be undertaken by qualified and competent safety and health professionals. Each person assigned specific safety and health responsibilities is identified.

4.1 SPK Chain of Command

Ms. Kathy Siebenmann is the Technical Team Lead, Ms. Donna Maxey is the Project Safety and Health Officer, Mr. A.R. Smith is the District Chief of Safety and Occupational Health, and the SSHO/Field Team Lead will be determined.

4.2 SPK Personnel Responsibility and Authority

SPK personnel are responsible for performing tasks in a safe and healthful manner, preventing unnecessary risk of Hazardous exposure to field personnel, other site personnel, the public, or the environment. Each individual is responsible for acknowledging and following applicable safe work rules and guidelines in this SSHP and the contractor's SSHP(s) and using best professional judgment in minimizing the potential for injury or adverse health associated with activities governed by this SSHP.

4.2.1 Project Manager

As the senior management representative, the PM is responsible for defining project objectives, allocating resources, determining the project delivery team, and evaluating project outcome. The PM will ensure the reporting, scheduling, and budgetary obligations are met.

4.2.2 Site Safety and Health Officer

Day-to-day safety and industrial hygiene support, including air monitoring, training, daily site safety inspections, will be provided by a designated SSHO who will report activities to the PSHO.

4.2.3 Field Personnel

All personnel will attend a project-specific briefing conducted by the PSHO or SSHO. This briefing is used to orient all site personnel to the nature of the site, the scope of work, the contents of the SSHP and any unique site conditions warrant explanation.

4.2.4 Project Safety and Health Officer

The PSHO is responsible for the development, technical assistance, and oversight of this SSHP. The PSHO shall ensure all health and safety program documents comply with Federal, state and local health and safety requirements. If necessary, the PSHO will modify the SSHP to adjust for on-site changes that affect safety and/or health. The PSHO will coordinate with the SSHO on all modification to the SSHP and will be available for consultation when required.

4.2.5 Chief, Safety and Occupational Health Office

The Chief, SOH is responsible for verifying that SPK personnel are current participants in the medical surveillance program, have current respiratory fit test (if applicable), complete safety and health training; and providing quality assurance for consistency with Corps policy and procedure. The SPK SOH may conduct a site safety audit. This audit will be to check for conformance with the SSHP. Findings will be written up and discussed with the PM, PSHO and SSHO to ensure that any deficiencies are corrected.

4.2.6 Other Key Safety and Health Personnel

- a. SPK will utilize the services of Dr. Lee Wugofski, MD, of the Division of Federal Occupational Health (DFOH) unit. Dr. Wugofski is certified in occupational medicine.
- b. SPK will utilize laboratories which are proficient to conduct personnel, area, and environmental analysis for organic and inorganic chemicals; fully equipped to analyze the required NIOSH, OSHA, and EPA analyses; and currently participating in the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) Program and is certified by AIHA.

4.2.7 Key Personnel

Technical Team Leader
Chief SOH

Kathy Siebenmann
Arthur R Smith

(916) 557-7180
(916) 557-6973

Project Safety and Health Officer	Donna Maxey	(916) 557-7437
Site Safety and Health Officer	Kim Emerick	(916) 557-7319
Public Health Service (PHS)	Marion Conley, RN	(916) 930-2290
Occupational Physician (PHS)	Dr. Lee Wugfoski, MD	(415) 556-2975

4.2.8 Site Visitors

Visitors may be present at the project site during field activities. These individuals may include SPK staff, regulatory agency personnel, client personnel, and visitors. The SSHO will provide a brief overview of the field activities to the site visitors.

5.0 Training

5.1 General

All personnel who enter a Hazardous waste site must recognize and understand the potential Hazards to health and safety. It is the intent of this SSHP to provide every person a level of health and safety training consistent with their job function and responsibility. SPK on-site personnel have completed formal Hazardous waste operations (HAZWOPER) training and will complete an on-site briefing on this SSHP, the AHA, PPE, and Hazard communication. SPK personnel performing on-site activities will be familiar with the contents of this SSHP along with any contractor's SSHP(s), and sign the SSHP Employee Acknowledgment form.

5.1.1 Additional Training

In addition to the OSHA Hazardous waste operations and emergency response regulations, there are other ancillary safety and health regulations governing certain training aspects for these projects. These additional training requirements include:

- a. Respiratory Protection (29 CFR 1910.134).
- b. Hearing Conservation (29 CFR 1910.95).
- c. Hazard Communication (29 CFR 1910.1200 / 1926.59).
- d. Bloodborne Pathogens (29 CFR 1910.1030).

5.1.2 Initial Training

Field personnel Have completed 40 hours of off-site instruction, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.

5.1.3 Supervisory Training

The Field Team Lead/SSHO Has completed 8 additional hours of specialized training on managing such operations.

5.1.4 Refresher Training

All site workers will complete 8 hours of off-site refresher training annually on the items covered in the 40-hour initial training program.

5.1.5 Site-Specific Training

Site-specific training covering site Hazards, procedures, and contents of the SSHP to all personnel, including those assigned only to the Support Zone who Have met the requirements of 29 CFR 1926.65. Training will be conducted prior to job start-up and as needed thereafter. The PSHO or SSHO will conduct initial site-specific training to ensure that employees have a thorough understanding of the SSHP, standard operating procedures (SOPs), and physical, safety, biological, radiological, and chemical Hazards of the site.

5.1.6 Daily Tailgate Safety Meetings

All personnel who enter the exclusion and contamination reduction zones will attend the daily tailgate safety meeting. This meeting, conducted by the SSHO and/or contractor, will cover specific health and safety issues, site activities, changes in site conditions, and will review topics covered in the initial health and safety meeting as they apply to daily activities.

5.1.7 Respiratory Protection

Respiratory protection training is included in the initial 40-hours and 8-hour update HAZWOPER training.

5.1.8 Hazard Communication

In accordance with the OSHA Hazard Communication standard (29 CFR 1910.1200 / 29 CFR 1926.59), copies of all material safety data sheets (MSDS), container labeling, and chemical health Hazards for Hazardous chemical materials brought onto any project site and used during site operations will be available. Site-specific training on the chemicals of concern will be provided. General Hazard communication training will be conducted during the HAZWOPER training.

5.1.9 Bloodborne Pathogens and CPR/First Aid

Selected employees have been trained in CPR and first aid for emergency use only. An introduction to the Bloodborne Pathogens standard will be provided during the CPR/First Aid Training.

5.1.10 Hearing Conservation

Hearing conservation is included in the initial 40-hour and 8-hour refresher HAZWOPER training classes.

5.1.11 Confined Space Entry

Confined space entry is not anticipated nor permitted without a revision to this SSHP. General awareness of confined space entry training is provided in the 40-hour initial and 8-hour refresher HAZWOPER training classes. Under no circumstance will employees not specifically trained in confined space safety be permitted to enter a confined space.

5.1.12 Excavation and Trenching

Excavating and trenching will not be conducted by contractors or SPK personnel.

5.1.13 Emergency Response Procedures

All employees will be made aware of the project emergency assistance network and the most probable route of evacuation in the event of an emergency.

5.1.14 Site-Specific Rules and Disciplinary Procedures

Prior to the initiation of field activities, employees will be instructed in specific safety rules. Employees will be instructed in the use of the “buddy” system; the buddy system will be used at all times when employees are within an exclusion or contamination reduction zone.

5.1.15 Documentation of Training

Documentation of training is the responsibility of SPK’s SOH.

5.1.16 First Aid / CPR

At least two SPK, or contractor persons trained in a minimum of both American Red Cross first-aid techniques and CPR will be on site whenever activities occur.

6.0 PERSONAL PROTECTIVE EQUIPMENT

6.1 Personal Protective Equipment Program

SPK will develop a site-specific PPE program. This program will supplement SPK’s Protective Clothing and Equipment program, SPK OM 385-1-1, Appendix J. The program will address the elements of 29 CFR 1926.65(g)(5), 29 CFR 1910.132 (General Requirements) and 29 CFR 1910.134 (Respiratory Protection).

6.2 PPE Ensemble

SPK will specify minimum PPE ensembles (including respirators) necessary for each task/operation based on the Hazard/risk analysis, including potential heat stress and associated safety Hazards.

6.2.1 Site-Specific Personal Protective Equipment

Based on the Hazard assessment, including the review of the existing analytical data and related toxicological information, proposed activities, performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and durations, it is anticipated that Level D is the initial level of protection during SPK tasks. Personnel shall use the PPE ensemble as described in the contractor’s SSHP when conducting contractor audits.

6.2.2 Level D

Level D consists of the following:

- a. Long pants and sleeved shirts with collars.
 - b. Safety boots/shoes meeting the specifications of American National Standards Institute (ANSI) Z41.
 - c. Safety glasses (may be tinted for outdoors work). All approved eye protection must meet the specifications of ANSI Z87.1. The use of contact lenses is
-

discouraged during Level D operations, but not prohibited. Safety glasses will be used in addition to the contact lenses.

- d. Impervious gloves will be worn during all site activities that could result in direct contact with potentially contaminated soil or other items.
- e. Hearing protection (if required). The protective device must Have a noise reduction rating capable of providing the wearer with enough protection so as to reduce the received noise level to below 85 dBA.

Because of recent concerns of Hantavirus, which has resulted in several deaths in the Southwestern part of the United States, respirators may be worn by site personnel in Level D ensembles. For this reason, air purifying respirators (APR), Half-faced or full-faced, with either a dust filter or high efficiency particulate air (HEPA) filter (P100) will be made available. The dust filter will suffice, as the Hantavirus is typically transported via dust particles.

6.2.3 Level C

Level C protective equipment will be designated by SPK Personnel and may consist of the following:

- a. Chemical-resistant coveralls. This may include polyethylene coated Tyvek, or Saranex.
- b. Safety shoes with disposable boots covers or, Chemical-resistant steel toed boots, meeting the specifications of ANSI Z41.
- c. Chemical resistant gloves. This includes: disposable inner and outer gloves, such as polyvinyl alcohol and 4H or Silver Shield.
- d. Work gloves as necessary to prevent cuts, scrapes, and pinches.
- e. Half-faced or full-faced APR with HEPA (P100) cartridges, Safety glasses, goggles or face shield when wearing a Half-face APR, meeting the specifications of ANSI Z87.1. There is no longer an OSHA prohibition for the use of contact lenses with respiratory protective devices. Individuals who feel that the contact lens provides them superior vision and comfort may use them with respirators.
- f. Hardhat meeting the specifications of ANSI Z89.1.
- g. Cuffs sealed to boots or gloves with duct tape, or equivalent.
- h. Hearing protection as necessary depending on measured decibel readings in the field.
- i. Reflective traffic vests.

6.2.4 Level B and Level A

SPK personnel will not use Level B and Level A PPE.

6.2.5 Modification of PPE

Based on actual field conditions and on-site monitoring activities, modification in the PPE may be necessary. Modifications may include PPE upgrades to a higher degree of protection, downgrades, or substitutions such as use of engineering controls. The SSHO may modify the initial levels of PPE in response to additional site information, with the approval of the PSHO.

6.3 Fit-For-Duty

Site personnel will Have a current medical "fit-for-duty" clearance to use respiratory and other PPE.

6.4 Respirator Protective Program

All respiratory protective equipment will be National Institute for Occupational Safety and Health (NIOSH) approved. SPK maintains a written respiratory protective equipment program detailing selection, fit testing, use, cleaning, maintenance, and storage of respiratory protective equipment, as well as medical approval for individual use.

7.0 Medical Surveillance

7.1 General

Personnel performing on-site HTRW activities participate in an ongoing medical surveillance program meeting the requirements of 29 CFR 1926.65 and ANSI Z-88.2.

7.2 Medical Surveillance Coordinator

SPK's SOH has contracted the services of a Board-Certified Occupational Physician at DFOH to provide the bi-annual (more frequent on physicians recommendation) medical surveillance exams. The physician will review all medical examinations and will be available for medical consultation on an "as-needed" basis.

7.3 Medical Examinations

On-site SPK personnel have successfully completed a pre-placement or periodic/updated physical examination. The medical surveillance provided to the employee includes a judgment by the medical examiner of the ability of the employee to use negative-pressure respiratory equipment. Any employee found to have a medical condition that could directly or indirectly be aggravated by exposure to the COPC or by the use of respiratory equipment will not be employed for the project.

7.3.1 Contents of Medical Examination

SPK's SOH in consultation with the DFOH has established the minimum content of the medical examination based upon probable HTRW site conditions, potential occupational exposures and required protective equipment.

7.3.2 Injury or Illness

Any injury or illness (whether on or off the job) may require work restrictions after the employee returns to work. If the injury or illness required seeing a physician, either the attending physician or the physician giving the employment physical will be involved in the decision of when the employee will return to work, and if any work restrictions will apply.

7.3.3 Certification of Participation

The SOH will maintain the certification of employee participation in the medical surveillance program and the written opinion from the attending physician.

7.4 Medical Records

Personnel Medical records will be maintained by DFOH.

7.4.1 Project Specific Medical Monitoring

There are no HAAF specific medical monitoring elements.

7.5 Emergency Medical Assistance and First Aid

Prior to work start-up, an emergency medical assistance network will be established. The Fire Department, ambulance service, and clinic or hospital emergency room are identified. A vehicle will be available on-site during all work activities to transport injured personnel to the identified emergency medical facility. At least two field team members (SPK, HAAF or contractor) will be certified to render both CPR and First Aid. A first aid kit, including necessary protection against bloodborne pathogens, will be available. An adequate supply of fresh potable water for emergency eye wash purposes or a portable emergency eyewash, also will be available depending on the site hazards. A map and directions indicating the fastest route to the hospital emergency room will be posted.

8.0 RADIATION DOSIMETRY

Radiological hazards are not anticipated for this project.

9.0 EXPOSURE MONITORING/AIR SAMPLING PROGRAM

9.1 General

Exposures to the COPCs above their PEL/TLV are not anticipated for these SPK outdoor tasks; there will be no direct-reading or integrated personal monitoring. If conditions are not as anticipated, work will stop until a monitoring program is established and monitoring equipment is obtained. Contractor may monitor intrusive activities that they conduct.

9.2 Dust Control

SPK activities will not require dust control.

9.3 Heat or Cold Stress Monitoring

Heat or cold stress will be monitored qualitatively. Personnel will not conduct strenuous activities that will require heat stress monitoring. Personnel will take breaks in air-conditioned vehicles.

10.0 HEAT / COLD STRESS MONITORING

10.1 General

Heat and cold stress will be monitored qualitatively.

10.2 Heat Stress

The stress of working in a hot environment can cause a variety of illnesses including heat exhaustion or heat stroke; the latter can be fatal. Use of personal protective equipment

can significantly increase heat stress. To reduce or prevent heat stress, SPK will implement scheduled rest periods and require controlled beverage consumption to replace body fluids and salts.

10.2.1 Monitoring for Heat Stress

Personnel are trained to recognize the symptoms of heat stress and the appropriate action to take upon recognition.

10.3 Cold Stress

During the winter months, cold stress may be an occupational stress. Frostbite and hypothermia are the primary concerns. Personnel will take breaks in a heated vehicle.

11.0 STANDARD OPERATING SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

SPK will develop and implement applicable and feasible engineering and work practice controls to reduce and maintain employee exposure at or below the OSHA PELs for the COPCs. SPK will develop and implement, as applicable, standard operating procedures (SOP), to include but not limited to:

- a. Site rules/prohibitions (buddy system, eating/drinking/smoking restrictions).
- b. Work permit requirements (e.g., radioactive work, excavation, hot work, confined space). Not applicable for SPK tasks.
- c. Material Handling procedures (soils, liquids, radioactive material). Not applicable for SPK tasks.
- d. Drum/container Handling procedures and precautions (opening, sampling, overpacking). Not applicable for SPK tasks.
- e. Confined space entry procedures. Not applicable
- f. Hot work, sources of ignition, fire protection/prevention. Not applicable.
- g. Electrical safety (ground-fault protection, overhead power line avoidance). Not applicable for SPK tasks.
- h. Excavation and trenching safety. Not applicable for SPK tasks.
- i. Guarding of machinery and equipment. Not applicable for SPK tasks.
- j. Lockout/Tagout. Not applicable for SPK tasks.
- k. Fall protection. Not applicable for SPK tasks.
- l. Hazard Communication.
- m. Illumination. Work will be conducted during daylight hours.
- n. Sanitation. Work breaks, eating, and drinking will be in the field vehicle or other suitable location outside the restricted area.
- o. Engineering controls.
- p. Process Safety Management. Not applicable.
- q. Signs and labels. Not applicable for SPK tasks.

11.1 Field Safety Requirements

The field safety requirements and procedures applicable to this project include safe work practices, work zones, site control, safety meetings, safety inspections, accident reporting and investigations, sanitation, and housekeeping.

11.2 Hearing Conservation

A hearing conservation program will be implemented at the site when noise exposures equal or exceed an 8-hour TWA of 85 A-weighted decibels (dBA). Audiometric testing is part of the medical surveillance program. Hearing protection will be worn by personnel working with or around heavy equipment.

11.3 Heavy Equipment Operations

Personnel will stay clear of contractor's operating equipment. Personnel will approach operating equipment only from the operator's angle of view and only after making eye contact with the operator. Personnel will wear reflective traffic vests.

11.4 Weather

SPK activities will be suspended during severe weather conditions.

11.5 Slips, Trips, Falls

These potential Hazards are likely due to slippery surfaces and uneven terrain. SPK personnel will watch where they walk.

11.6 Cuts and Scrapes

The potential for jagged-edged objects and general cuts and scrapes exist. SPK personnel will wear appropriate PPE.

11.7 Buried / Overhead Utilities

This is a contractor responsibility.

12.0 **SITE CONTROL MEASURES**

Currently there is no site control in progress for the HAAF site.

12.1 Work Zones

SPK tasks will be conducted in restricted areas; the 3-work zones will not be required. The contractors will establish work zones (Exclusion (EZ), Contamination Reduction (CRZ), and Support (SZ), including restricted and regulated areas) at HTRW sites based on the contamination characterization data and the hazard/risk analysis.

12.2 Authorized Personnel

Only authorized personnel will enter regulated areas associated with the field activities. The SSHO will establish the bounds of the regulated areas. The following measures will be taken to assure site security. All workers entering the regulated areas will be subject to the provisions of the SSHP. The SSHO will have the responsibility and authority to enforce this requirement.

12.3 Communication Systems

Two types of communications systems will be available for workers assigned to field projects. One system will ensure adequate communication between site personnel, and

the other will ensure the ability to contact personnel and emergency assistance off the site.

13.0 PERSONAL HYGIENE AND DECONTAMINATION

A formal decontamination station is not applicable for SPK activities. Decontamination will occur within the gravel firing range area. Wet-wipes will be used as an alternative procedure before eating and drinking.

14.0 EQUIPMENT DECONTAMINATION

Sampling equipment will be decontaminated between sampling locations. Disposable equipment will be containerized and removed from the area. No heavy equipment will be used by SPK personnel.

15.0 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

The following items, as appropriate, will be available for on-site use:

- a. First aid equipment and supplies.
- b. Emergency Eyewashes/showers (ANSI Z-358-1) (determined by SSHO)
- c. Fire Extinguishers (determined by SSHO)

Contractors may have additional emergency equipment at their job sites.

16.0 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

16.1 Local Fire / Police / Rescue

Local fire/police/rescue authorities having jurisdiction and nearby medical facilities that could be utilized for emergency treatment of injured personnel will be contacted to notify them of upcoming site activities and potential emergency situations, to ascertain their response capabilities, and to obtain a response commitment.

16.2 General

This section contains emergency response procedures specific to this project, including telephone numbers for the closest medical facilities capable of providing emergency service for hazardous waste site workers, a map showing the locations of these medical facilities. Additionally, telephone numbers for the Poison Control Center, local police, fire department (including emergency rescue squad), and SPK management contacts have been provided. The SSHO will be responsible for taking necessary action and contacting the appropriate emergency contacts and SPK personnel in case of emergency.

16.3 Spill and Discharge Control

Not applicable for SPK activities

16.4 Emergency Response Plan and Contingency Procedures

SPK personnel will be prepared to respond and act quickly in the event of an emergency. Pre-planning measures will include employee training, fire and explosion prevention and

protection, chemical spill and discharge prevention and protection, and safe work practices to avoid personal injury or exposure.

16.4.1 Medical Emergency Response

In the event of severe physical or chemical injury, emergency response personnel will be summoned for emergency medical treatment and ambulance service. The emergency medical responders will be utilized to provide care to severely injured personnel. Transportation routes and maps will be posted in each vehicle prior to the initiation of on-site activities.

16.4.2 Emergency Response Contacts

Field Team Leader/SSHO	Kim Emerick	(916) 557-7319
	On-Site Cell	(916) 261-9499
Project Safety and Health Officer	Donna Maxey	(916) 557-7437
Chief SHO	A.R. Smith	(916) 557-6973
Public Health Service (PHS)	Marion Conley, RN	(916) 930-2290
Occupational Physician (PHS)	Dr. Lee Wugfoski, MD	(415) 556-2975
SPK District 24 Hr Answering Service		(916) 452-1535
Novato Community Hospital		(415) 897-3111
180 Rowland Way		
Novato, CA 94945		
Poison Control Center		(800) 222-1222
Fire/Police Emergency		911

16.4.3 Personal Exposure or Injury

The SSHO will call for emergency assistance if needed. As soon as practical, the SSHO will contact the Section Supervisor. Staff assigned to this project will be briefed on procedures.

16.4.4 Emergency Equipment

The SSHO will have a cell phone at the site; the SSHO will determine if it functions at the individual sites. The SSHO will assure communication with HAAF security.

17.0 **ACCIDENT PREVENTION**

17.1 Daily Safety and Health Inspections

Daily safety and health inspections will be conducted by the SSHO to determine if site operations are in accordance with the approved SSHP, OSHA, and USACE requirements.

17.2 Accident or Incident

In the event of an accident or incident, the SSHO will immediately notify the Technical Team Lead and the employee's supervisor. Within three working days of any reportable accident/injury/illness, the employee and their supervisor will complete and submit to the SOH Office an Accident Report on ENG Form 3394, CA-1 and/or CA-2, and other applicable forms. The PM will complete and submit DA Form 285 for all Class A and B accidents.

17.3 Accident Investigations

All injuries, occupational illnesses, vehicle accidents, and incidents with potential for injury or loss will be investigated, appropriate corrective measures taken to prevent recurrence, and continually improve the safety and health of the work site.

18.0 **LOGS, REPORTS, AND RECORDKEEPING**

The following logs, reports, and records will be developed, retained, and submitted to the PM:

- a. Daily safety inspection logs (may be part of the Daily QC Reports).
- b. Employee/visitor register.
- c. Environmental and personal exposure monitoring/sampling results (contractor provided).

18.1 Recordkeeping

The PM will maintain reports generated by the Field Team Leader.

18.2 Accident Reporting and Investigation

All SPK personnel are required to report all near misses, injuries, illnesses, and accidents to their immediate supervisor. The supervisor will immediately arrange appropriate medical care as required. Once immediate medical care for the injured personnel has been accomplished, the supervisor will complete and submit the appropriate report forms required by the SOH Office and Human Resources. All near misses, injuries, illnesses, and accidents shall be investigated. The supervisor of the injured employee will investigate the conditions that led to the accident with the assistance of the Chief, SOH. They will document how the accident occurred and identify unsafe acts or conditions what occurred or existed at the time of the accident. Corrective actions will be determined and implemented to prevent recurrence of the accident, and responsibility for implementation of corrective actions will be assigned.

ACTIVITY HAZARD ANALYSIS

ACTIVITY: Site Visit/Sampling

Principal Steps	Potential Hazards	Recommended Controls
1. Non-intrusive visits	<u>Chemical Hazards:</u> See Tables 1 <u>Radiological Hazards:</u> None anticipated <u>Biological Hazards:</u> Rattlesnakes, insects,	<u>Chemical Hazards</u> 1. Level D PPE, upgrade to Level C as determined by SPK Personnel.
2. Soil Sampling	spiders, ticks, fleas	<u>Radiological Hazards:</u> None

	<u>Physical Hazards:</u> <ol style="list-style-type: none"> 1. Cuts, scrapes, and pinch points from Hand Augers 2. Slip/trip/fall on slippery surfaces and uneven terrain 3. Heat stress 4. Noise from heavy equipment 5. Struck by or against a piece of heavy equipment 6. Contact with overhead and underground utilities. 	<u>Biological Hazards:</u> Observe field conditions. <u>Physical Hazards</u> <ol style="list-style-type: none"> 1. Watch where you step, be aware that sticks, rocks or other items can be concealed by leaves and grass, causing you to trip. 2. Only qualified and trained personnel will operate equipment. 3. Equipment must be inspected by a competent person and operated in accordance with the manufacturer's instructions. 4. Moving equipment must have properly functioning back-up alarms. 5. Equipment shall not run unattended. 6. Frequent breaks and replacement fluids to prevent heat stress.
Equipment to be Used	Inspection Requirements	Training Requirements
1. None	1. None	1. None

Table 1: See NIOSH Pocket Guide for Chemicals of Concern (Section 3.2.1)

The above project requires the following: that you be provided with and complete formal and site-specific training; that you be supplied with proper personal protective equipment including respirators; that you be trained in its use; and that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that the Corps of Engineers has met these obligations to you.

[illegible]

TRAINING ACKNOWLEDGMENT FORM

By signing this certificate, you are acknowledging that you have completed the following formal training:

SITE-SPECIFIC TRAINING: I have completed the SPK/contractor site-specific training
_____ Employee Initials

RESPIRATORY PROTECTION: I have been trained in accordance with SPK's Respiratory Protection Program, SPK OM 385-1-1. I have been trained in the proper work procedures and use and limitations of the respirator(s) I will potentially wear. I Have been trained in and will abide by the facial hair policy. SPK employees will evacuate the site if conditions require an upgrade to EPA/OSHA Level C PPE (which includes respiratory protection) if not trained, medically evaluated or provided a respirator.

_____ Employee Initials

MEDICAL EXAMINATION: I have had a medical examination within the [last twelve months] [two years] which was paid for by the Corps of Engineers. The examination included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray. A physician made a determination regarding my physical capacity to perform work tasks on the project while wearing protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. The Chief of SOH Office evaluated the medical certification provided by the physician. The physician determined that there:

- a. Were no limitations to performing the required work tasks;
_____ Employee Initials
- b. Were identified physical limitations to performing the required work tasks.
_____ Employee Initials

Employee's Signature _____

Date _____

Employee's Name _____
(Printed)

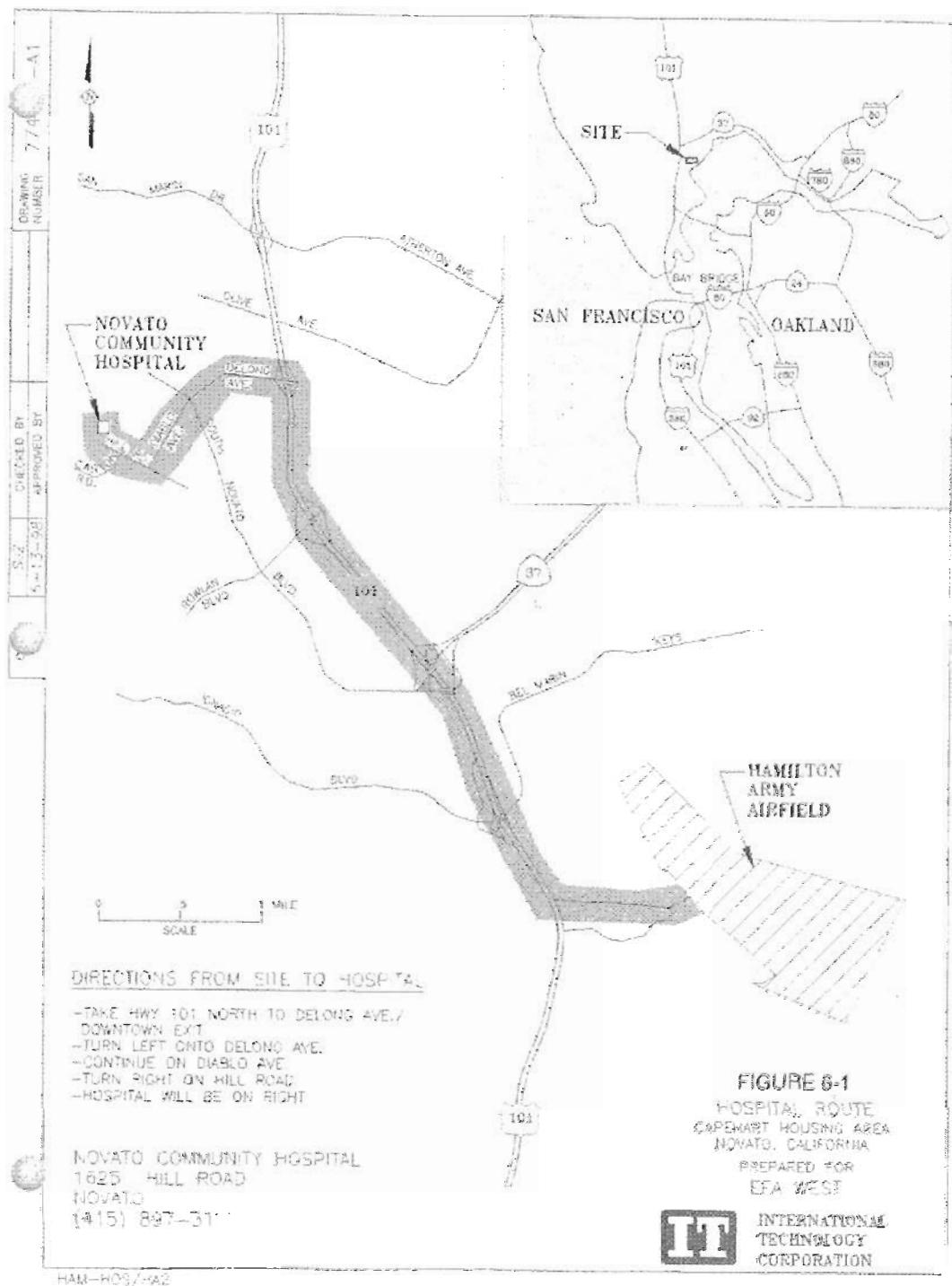


Figure 1. Site Location and Emergency Route to Novato Community Hospital.

Novato Community Hospital (415) 897-3111
180 Rowland Way
Novato, CA 94945